National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

Request for Comment on Proposed Rule
(June 9, 2010)

Introduction:

On June 9, EPA published a proposed rule in the Federal Register (75 FR 32006) which would reduce emissions from boilers and process heaters located at major sources. This document highlights the specific issues related to the major source boiler rule that EPA is interested in receiving additional comments on. Comment period for rule ends August 3, 2010.

What parts of the proposed rule might be of interest to me or my community?

We invite comments on all issues involved with this proposed rule. Here is a list of some of the key issues and *specific requests for comment* from the Federal Register notice. The specific requests for comment are in bullet form and in italics. Each specific request for comment is followed by a page number showing where it is located in the Federal Register.

Startup, Shutdown, Malfunction Requirements

This proposed rule regulates the emissions of HAPs from boilers and process heaters during all phases of operation. The proposed rule does not provide exemptions from emissions limits during periods of startup, shutdown, and malfunction (SSM). We have attempted to ensure that we did not incorporate into proposed regulatory language any provisions that are inappropriate, unnecessary, or redundant in the absence of an SSM exemption.

- *Should any additional provisions be added to this proposal related to SSM requirements since it would not provide an exemption?* (75 FR 32012)
- *Are any parts of this proposal related to SSM requirements inappropriate, unnecessary, or redundant?* (75 FR 32012)

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Establishing Emission Limits and Work Practice Requirements

We are asking for comment on several issues related to how we propos to set emission levels for new and existing boilers and process heaters. Section 112(d) of the Clean Air Act (CAA) requires us to set emissions standards for HAP emitted by major stationary sources based on the performance of the maximum achievable control technology (MACT). The MACT standards for existing sources must be at least as stringent as the average emissions limitation achieved by the best performing 12 percent of existing sources (for which the Administrator has emissions information) or the best performing 5 sources for source categories with less than 30 sources. This level of minimum stringency is called the MACT floor. For new sources, MACT standards must be at least as stringent as the control level achieved in practice by the best controlled similar source.

This proposed rule identifies 11 subcategories for the boilers and process heaters based on fuel type and unit design. We believe this is a reasonable basis for grouping and estimating the performance of generally similar units. There are separate requirements for each subcategory.

- *Are the emissions limits for each subcategory appropriate?* (75 FR 32025, 75 FR 32028)

- *Should additional or different subcategories be considered?* (75 FR 32027)

The proposed rule also uses the 12% rule mentioned above for subcategories that have more than 30 sources but very little emissions data on these sources. For these subcategories, the proposed rule would set MACT floors by using the best 12 percent of data, even though 12 percent provides a pool of best performers that is less than five. In several instances, the proposed existing source MACT floors are based on only one or two units that are the top 12 percent.

- *Should EPA interpret the CAA as allowing the MACT floor to be set using emissions data from no fewer than five sources rather than using the best 12 percent for these situations?* (75 FR 32022)

The data base for this rule includes emissions that occur below the method detection capabilities of measuring devices. These data are reported as the method detection level values and therefore the variability of the emissions data is understated.

- *What approach should we use to account for measurement variability in establishing the MACT floor when based on measurements at or near the method detection level?* (75 FR 32021)

When it is not feasible to establish an enforceable emission standard, we may instead require units subject to a MACT standard to comply with a work practice. Under the proposed rule, existing boilers and process heaters that have a heat input capacity of less than 10 million Btu per hour would not be subject to an emission limit but would be required to perform an annual tune-up. We believe this is justified because it is not practical or economically feasible to require testing and monitoring of these units.

- *Do you agree that technological or economic limitations make it impractical to measure HAP emissions from these small boilers and process heaters and the work practice is more appropriate?* (75 FR 32024)

This proposed rule also would require an annual tune-up for existing and new natural gas- and refinery gas-fired boilers and process heaters.

- *Do you agree that technological or economic limitations make it impractical to measure HAP emissions from boilers and process heaters in this subcategory and the work practice is more appropriate?* (75 FR 32028)

We believe that if emission limits were provided for natural gas- and refinery gas-fired boilers and process heaters that may provide an incentive for a facility to switch from gas to a "dirtier" but cheaper fuel like coal.

- *How likely is it that facilities would switch fuels from natural gas to coal if we adopt an emissions limit for gas-fired boilers?* (75 FR 32025, 75 FR 32028)

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Beyond-the-floor Control Options

We must consider stringent "beyond-the-floor" control options, which are more stringent than the MACT floor. When considering beyond-the-floor options, we must consider not only the maximum degree of reduction in emissions of HAP, but did take into account costs, energy, and non-air environmental impacts.

This proposed rule requires that existing units perform an energy assessment using EPA's ENERGY STAR Facility Energy Management Assessment Matrix to identify cost-effective energy conservation measures.

- *Are these estimates of the costs of assessments correct?*
- *Is there adequate access to certified assessors?*
- *Are there are other organizations for certifying energy engineers?*
- *Do online tools provide enough information for a facility to decide whether to make efficiency upgrades?*
- *Is the definition of "cost-effective" appropriate here since it refers to payback of energy saving investments without regard to the impact on HAP reduction?*
- *What rate of return should be used?*
- *Are there other guidelines for energy management beside ENERGY STAR that would be appropriate?* (each of the above requests for comment are at 75 FR 32027)

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Establishing Health-Based Emission Standards

We did not propose health-based emission standards under the boiler MACT proposal. We considered whether it was appropriate to exercise the Agency's discretionary authority to establish health-based emission standards under section 112(d)(4) for HCl and each of the other relevant HAP acid gases: chlorine (Cl2), hydrogen fluoride (HF), and hydrogen cyanide (HCN). This provision allows us to set a MACT standard that is not as stringent as the MACT floor, provided there is an established health threshold for the HAP and a less stringent emission standard will still ensure that the health threshold will not be exceeded, with an ample margin of safety. In order to exercise this discretion, we concluded that the HAP at issue has an established health threshold and must then provide for an ample margin of safety when considering the health threshold to set an emission standard.

- *We are asking for comment on all of the conclusions mentioned in the preamble section on setting health-based emissions standards, including the way the agency has used 112(d)(4) previously. In particular, we are asking for comment on whether it would be feasible and appropriate to establish such a standard and, if so, the methodology by which it could be established.* (75 FR 32033)

Currently, we have very limited information on facility-specific emissions, plant configurations, and overall fence-line characteristics for this large and diverse source category. This information is a precondition to establishing health-based emission standards that provide an ample margin of safety. We concluded that we do not have sufficient information at this time to establish what the health-based emission standards would be for HCl or the other acid gases.

- *Can you provide information on facility-specific emissions, plant configurations, and overall fence-line characteristics for this source category?* (75 FR 32031)
- *Is sufficient information available to set health-based emission standards for HCl or the other acid gases?* (75 FR 32031)

If EPA were to establish health-based standards, we request comments on these issues.

- *Should we establish health-based standards for each acid gas described above or a single standard for one of the acid gases as a surrogate for the other acid gases?*
- *If a surrogate would be appropriate, what mechanism would be used to determine the appropriate surrogate?*
- *If individual health-based standards for acid gases are set, would there be an additive effect (due to interactions among the gases), and if so, how would we simulate and account for that effect?*
- *Would it be appropriate to account for potential toxicological interactions of these pollutants by using the hazard index (HI) approach, as described in EPA's "Guideline for the Health Risk Assessment of Chemical Mixtures?"*
- *Should we consider the emissions from boilers and process heaters by themselves, or should we consider all HAP emissions at the facility when developing a health-based standard) in order to assure an ample margin of safety?*
- *How should we consider the potential interactions of acid gases with other respiratory irritants that may be emitted at the facility?*

- *When considering potential interactions, what data is available to make a demonstration of those interactions?*
- *If no data are available, should we base a demonstration on a bounding calculation?*
- *Should we consider HAP emissions from neighboring facilities, and, if so, what is the appropriate geographic scope of such consideration (e.g., facilities within a 1 km radius of the affected source, 3 km, etc.)?*
- *What is the best approach to simulate all reasonably possible situations of exposure to pollution from a facility (e.g., using worst-case facility emissions coupled with worst-case population proximity, average emissions and population, or 90th percentile emissions and population)?* (each of the above requests for comment are at 75 FR 32032)

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Compliance Assurance

The proposed rule would require boilers and process heaters that burn coal, biomass, or oil which have a heat input capacity greater or equal to 250 MMBtu/hr to install Particulate Matter (PM) Continuous Emissions Monitors (CEMS) to assure compliance with PM emission limits.

- *Should PM CEMS be required for these units and should the resulting data be used for compliance determinations under this proposed rule?* (75 FR 32033)

In situations where source owners use emissions averaging to demonstrate compliance, EPA proposes that a discount factor of ten percent would be applied. EPA believes this discount factor will further ensure that averaging will be at least as stringent as the MACT floor limits in the absence of averaging.

- *Is it appropriate to use a discount factor and, if so, is ten percent the appropriate discount factor to use?* (75 FR 32035)

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Relationship to Proposed Rule That Would Change the Definition of "Solid Waste"

We proposed a new definition of solid waste under the Resource Conservation and Recovery Act (RCRA). The MACT floor limits presented in this proposed rule are based on the new definition of solid waste being proposed under RCRA. However, we are also soliciting comment on an alternative definition of solid waste, which would change the universe of facilities that would be subject to this boiler and process heater MACT standard. For that reason, we developed information on what the MACT floor limits would be based on the universe of sources that would be subject to the boiler and process heater MACT standard if the alternative definition of solid waste is adopted.

- *Are the emission limits based on the alternative definition of solid waste listed in Table 6 of the preamble appropriate?* (75 FR 32036)

This proposed rule covers major source boilers and process heaters that do not burn solid waste material. A major source boiler or process heater would no longer be covered by this rule if it began

burning solid waste. Instead, that unit would be covered by rules for solid waste incinerators. In a separate action, we are proposing a new definition of solid waste.

- *After the new definition of solid waste and this proposed rule become final, should the owner of a boiler or process heater that has been burning solid waste be able to choose coverage by the boiler rule (instead of the waste incinerator rules) if the owner agrees to an enforceable restriction that the unit will not burn solid waste in the future?* 32011)

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Executive Orders

This proposed rule does not have tribal implications, as specified in Executive Order 13175.

- *We specifically invite tribal officials to provide comment on this proposed rule.* (75 FR 32042)

EPA does not believe the environmental health risks or safety risks addressed by this action present a disproportionate risk to children.

- *We invite the public to submit comments or identify peer reviewed studies and data that assess effects of early life exposure to this proposed rule.* (75 FR 32042)